

L 65031-65

ACCESSION NR: AP5020959

2-ethylhexyl, decyl, and hexadecyl. The stretching vibrations of the P=S and P-S bonds are shown in a table. The most intensive absorption bands are observed in the frequency intervals 625-665, 750-850, and about 1000  $\text{cm}^{-1}$ ; these correspond to the stretching vibrations of the P=S, P-O-(C), and C-O-(P) groups. The present article examines the absorption frequencies of the P=S and P-S bonds, which are most significant for dithiophosphates. Results show that the nature of the metal and the structure of the alkyl groups have an effect on the stretching vibrations of the P=S and P-S groups. Frequencies of 661, 642, and 653  $\text{cm}^{-1}$  correspond to P=S bonds, and frequencies of 543 and 552  $\text{cm}^{-1}$  to P-S bonds. Zinc dialkylthiophosphates are absorbed in the interval 651-662  $\text{cm}^{-1}$ ; nickel dialkylthiophosphates in the interval 635-655  $\text{cm}^{-1}$ ; and lead dialkylthiophosphates in the interval 625-640  $\text{cm}^{-1}$ . This is evidence of the different mobility of the valence electrons. Orig. art. has: 1 figure and 4 tables

ASSOCIATION: / Vsesoyuznyy institut po parerabotke nefti (All-Union Institute for Oil Refining) / Institut neftekhimicheskogo sinteza im. A. V. Topchiyeva AN SSSR (Institute for Petrochemical Synthesis, AN SSSR)

SUBMITTED: 09Nov64

ENCL: 00

SUP CODE: UC, NP

NR REF SOV: 006

OTHER: 008

Card 2/2 Mcl

L 29560-66 EWP(j)/EWT(m)<sup>T</sup> RM/DJ  
ACC NR: AP6003435 (A)

SOURCE CODE: UR/0065/66/000/001/0054/0057

AUTHOR: Zimina, K. I.; Kotova, G. G.; Sher, V. V.; Kuz'mina, G. N.; Sanin, P. I.

ORG: VNII NP

TITLE: Determination and characteristics of zinc dialkyldithiophosphate-type  
additives based on infrared absorption spectra

SOURCE: Khimiya i tekhnologiya topliv i masel, no. 1, 1966, 54-57

TOPIC TAGS: lubricant additive, zinc compound, phosphorus compound, sulfur com-  
pound, IR spectrum

ABSTRACT: Infrared absorption spectra of motor oil additives based on zinc dialkyl-  
dithiophosphates were studied in the 400-700 cm<sup>-1</sup> range. The alkyl radicals of zinc  
dialkyldithiophosphates (general formula  $(RO)_2P(S)S\bar{Zn}S(S)P(OR')_2$ ) contained iso-  
propyl, isobutyl, n-butyl, isoamyl, 2-ethylhexyl, sec-heptyl, and higher radicals.  
It was found that the additives contain basic salts in addition to neutral zinc  
salts of dialkyldithiophosphates, and that the absorption band with a maximum at  
480 cm<sup>-1</sup> is due to stretching vibrations of the Zn-O bond in such basic salts. The

Card 1/2

UDC: 543.544 : 546.47

L 45816-66 Ent(m)/T DJ/ME  
ACC NR: AP6020392 (A)

SOURCE CODE: UR/0204/66/006/001/0112/0114

AUTHOR: Sanin, P. I.; Chernyavskaya, L. F.; Sher, V. V.; Komissarova, N. I.;  
Bogomolov, V. M.

30  
P

ORG: Institute of Petrochemical Synthesis im. A. V. Topchiyev, AN SSSR (Institut  
neftekhimicheskogo sinteza AN SSSR)

TITLE: Apparatus for oxidizing organic liquids with automatic compensation for con-  
sumed oxygen and its recording

SOURCE: Neftekhimiya, v. 6, no. 1, 1966, 112-114

apparatus,

TOPIC TAGS: chemical laboratory apparatus, oxidation kinetics

ABSTRACT: A circulation-type unit was constructed for the liquid-phase oxidation of  
organic liquids (hydrocarbons, "lubricating oils" and other petroleum products) at vari-  
ous temperatures and atmospheric pressure, with automatic recording and compensation  
for the oxygen consumed in the reaction. The unit is convenient to operate and gives  
reproducible results. It can be used for studying the oxidation kinetics of hydrocar-  
bons (and other compounds), for determining the stability of petroleum products, and  
for the comparative evaluation of the effectiveness of various antioxidants.<sup>1</sup> Experi-  
mental data showed that the unit can be used to obtain kinetic data over a wide range  
of oxidation rates (oxygen absorption rates). Orig. art. has 3 figures.

SUB CODE: 07/ SUBM DATE: 12Mar65/ ORIG REF: 001/ OTH REF: 001

UDC: 542.943.084

Card 1/1

ACC NR: AP6034495

conference was sponsored by the ministries of Petroleum Processing and the Petrochemical Industry of the USSR and of the AzerbSSR, and the Academy of Sciences AzerbSSR. The conference was attended by 350 representatives of Gosplans, ministries, scientific institutes and organizations, and plants.

SUB CODE: 11/ SUBM DATE: none/ ORIG REF: 001/

Card 2/2

СССР, №. 1.

Furniture

Drawing w/rear lining into twelve panels. Der. i Isachkin. prot. 2, No. 1, 1953.

9. Monthly List of Russian Accessions, Library of Congress, May 1953. Unclassified.

L 31512-66 EHT(1)/EHT(m)/EMP(c)/T IJP(c) JAJ

ACC NR: AP6009061 SOURCE CODE: UR/0207/66/000/001/0124/0126

AUTHOR: Kuznetsov, V. M. (Novosibirsk); Lugovtsov, B. A. (Novosibirsk); Sher, Ye. I. (Novosibirsk)

ORG: none

78  
47  
B

TITLE: The motion of gas bubbles in a fluid affected by a temperature gradient

SOURCE: Zhurnal prikladnoy mekhaniki i tekhnicheskoy fiziki, no. 1, 1966, 124-126

TOPIC TAGS: temperature dependence, gas bubble, gas mechanics, viscous fluid, temperature gradient

ABSTRACT: The authors investigate the motion of a gas bubble which is due to the action of surface tension in a weightless viscous fluid with a temperature gradient. A theory is proposed for the steady-state motion of a bubble in a field with a constant temperature gradient in the case of small Reynolds numbers. The experimental results presented agree qualitatively with the theory. It is noted that in view of the difficulties due to the presence of gravity, which caused convective motion of the liquid and the emersion of the bubbles, the experiment is qualitative in nature. The results of the experiment are given in a figure. The bubble at rest started moving 5-6 sec after heating began, and, expanding as a result of vaporization, moved toward the higher temperature. Thus, the experiment agrees with the theory. The editor remarks in a footnote that prior to publication of this article, the

Card 1/2

L 31542-66

ACC NR: AP6009061

present authors became aware of the work of N. O. Young, L. S. Goldstein, and M. J. Block (The motion of bubbles in a vertical temperature gradient. J. of Fluid mechanics, 1959, vol. 6, p. 3), but the editor was unable for technical reasons to hold up the publication of this article for the present authors to compare their results with those of the work of Young et al. The authors thank M. A. Lavrent'yev for a statement of the problem and constant attention to this work. Orig. art. has: 1 figure and 11 formulas.

SUB CODE: 20 / SUBM DATE: 02Aug65 / ORIG REF: 002

Card 2/2 LC

KUZNETSOV, V.M. (Novosibirsk); LAVRENT'YEV, M.A. (Novosibirsk);  
SHER, Ye. N. (Novosibirsk)

Directed earthmoving by means of explosives. PMTF no.4:49-  
50 N-D '60. (MIRA 14:7)

(Earthwork)  
(Explosions)

39226

17.6000

S/207/62/000/003/009/016  
I028/I228

AUTHOR: Kuznetsov, V. M. and Sher, Ye. N. (Novosibirsk)

TITLE: Experimental investigation of a directed explosion in the ground

PERIODICAL: Zhurnal prikladnoy mekhaniki i tekhnicheskoy fiziki, no. 3, 1962, 53-58

TEXT: The article describes the results of experimental investigations designed to check the method proposed formerly by the authors and Lavrent'ev for disposing the explosive in the ground in a manner ensuring that the ejected ground is completely directed. Two main dispositions of the explosives were investigated: "triangle" and "layer". In each case, four charges were used, the ratios between them being determined by a general formula; somewhat different empirical ratios were tried in a number of experiments. Thirty-one experiments were performed and almost all explosions were filmed. Results (parameters of the crater and parameters of the ejection) are presented in a general table. It was found that the proposed disposition of the explosives ensures that the ejected ground is completely directed; some variations in the law of disposition are proposed, however, in order to diminish the spread. The layer scheme is recommended as being the most economical in practice. E. P. Gorbacheva and A. V. Petrov are mentioned as having taken part in the investigation. The authors thank M. A. Lavrent'ev for guiding them in the work. There are 16 figures and 1 table.

PRESENTED: January 3, 1962

Card 1/1

ACCESSION NO: AP 3002809

S/0207/63/000/003/0084/0090

AUTHORS: Kuznetsov, V. M. (Novosibirsk); Sher, Ye. N. (Novosibirsk)

TITLE: Scaling effect and effect of ground strength in directional blasting

SOURCE: Zhurnal prikladnoy mekhaniki i tekhnicheskoy fiziki, no. 3, 1963, 84-90

TOPIC TAGS: directional blasting, explosive, blast center formation, chain blasting, blasting energy

ABSTRACT: The scaling effect and the effect of ground strength on the directional blasting theory proposed by M. A. Lavrent'yev, V. M. Kuznetsov, and Ye. N. Sher (O napravленном в্�ыведении грунта при помошнике В. В. ПМТФ, 1960, № 4) were investigated. The nondimensionalized parameters normally considered are  $\frac{J}{\rho g^{0.5} l^{2.5}} = \text{const}$ ,

$\frac{E}{\rho g l^4} = \text{const}$  (where  $J$  = impulse of explosive,  $\rho$  = density of ground,  $l$  = characteristic length,  $E$  = energy of explosive). It has been found that in practice this parameter should be modified to  $\frac{E\mu}{\rho^2 g l^n} = \text{const}$  (where  $\mu$  = depends on ground

Card 1/2

ACCESSION NO: AP3002809

properties and amount of explosive,  $n =$  varies between 3.5-7). Experimentally it was found that increasing the scale of an explosion decreased the relative amount of earth thrown out. During experiments performed in granite it was found that in the case of multiple charges placed around a perimeter the direction of the ground scatter depends upon the order in which the charges are released (ground is thrown towards the charges which were set off first). It was found that this behavior could be used to decrease the amount of explosive needed to move a certain amount of earth. A theoretical estimate was performed, and it was found that for the same effect the ratio of energy required with simultaneous explosion and chain explosion is  $E'/E'' = 1.69$ , i.e., chain explosion requires almost 70% less explosive. Orig. art. has: 9 figures and 14 formulas.

ASSOCIATION: Institut gidrodinamiki SO AN SSSR (Hydrodynamics Institute SO AN SSSR, in collaboration with trust "Soyuzvzry\*vprom")

SUBMITTED: 16Jan63

DATE ACQ: 16Jul63

ENCL: 00

SUB CODE: AR

NO REF SOV: 006

OTHER: 000

Card 2/2

ACCESSION NR: AP4034273

S/0207/64/000/002/0066/0073

AUTHORS: Kuznetsov, V. M. (Novosibirsk); Sher, Ye. N. (Novosibirsk)

TITLE: Flow stability of an ideal incompressible fluid in a strip and in a ring

SOURCE: Zhurnal prikladnoy mekhaniki i tekhnicheskoy fiziki, no. 2, 1964, 66-73

TOPIC TAGS: incompressible fluid flow, flow stability, ideal incompressible fluid, metal deformation, impulse load, initial state, constant pressure

ABSTRACT: The authors seek a solution for the Laplace equation

$$\varphi_{xx} + \varphi_{yy} = 0 \quad (1)$$

(the lower indices denote differentiation) in the region bounded by the curve  $y = \gamma(x, t)$  under the initial condition

$$\varphi(x, y, 0) = \Phi(x, y) \quad (2)$$

and boundary conditions for  $y = \gamma(x, t)$ 

$$\varphi_t + \frac{1}{2}(\varphi_x^2 + \varphi_y^2) + \frac{p}{D} = f(t) \quad (3)$$

$$\varphi_x \eta_x - \varphi_y + \eta_t = 0 \quad (4)$$

Card 1/2

Sher, Ye. S.

USSR/ Analytical Chemistry - Analysis of Inorganic Substances G-2

Abs Jour : Referat Zhur - Khimiya, No 4, 1957, 12129

Author : Luft B.D., Sher Ye.S.

Title : Determination of Micro-Amounts of Mineral Oils in  
Organic Solvents and on Metal Parts

Orig Pub : Zavod. laboratoriya, 1956, 22, No 7, 784-787

Abstract : Semi-quantitative, accelerated method for determining small amounts of mineral oils in organic solvents (by means of drop colorimetry) is based on formation of oil film on porous paper impregnated with dimethyl glyoximate of Ni. Sensitivity of determination 0.22 g/liter. A procedure has been worked out for quantitative determination of micro-amounts of mineral oils in trichlorethane, chloroform, dichlorethylene, with the SF-4 spectrophotometer. Sensitivity of determination 0.01 g/liter of solvent, accuracy 2-3%, duration 5-7 minutes

Card 1/1

15-245024-7900

2450

JULY 1980 0006/0 0/191  
R100-101AUTHORS: Izotenskiy, G. A., Chirkov, V., and Shter, Yu. N.TITLE: Ferrimagnetic materials with garnet-type structure  
excelling by a high initial permeability

PERIODICAL: Fizika tverdogo t-tva. v. . 6, 1961, 1808-1811

TEXT: It had been previously shown that solid solutions of ferrites with spinel structure, in the tetrahedral sites of which the magnetoactive ions of the transition metals of the 3d group were replaced by diamagnetic ions ( $Zn^{2+}$ ,  $Cd^{2+}$ ), exhibited a particularly high initial magnetic permeability. It has been also established that saturation magnetization in such ferrites passes through a maximum, and that the Neel temperature and saturation magnetostriiction of polycrystalline samples are reduced on a rise of Zn or Cd content. The authors of the present paper continued studying the properties of various compounds of the system  $\{Y_3\}[Fe_{2-x}Cr_x]_3O_{12}$  and were able to show that these compounds exhibit an increased initial permeability at low frequencies (for  $x=0 \mu_0 \approx 150$ ).

Card 1/ 5

Ferrimagnetic materials with... 24923

S/181/61/003/006/020/031  
B102/B201

for  $x = 0.1$   $\mu \approx 250$ ). Yet, this system forms, like systems  $\{Y_3\}[Fe_{2-x}Sc_x]_2(Fe_3)_0_{12}$  and  $\{Y_3\}[Fe_{2-x}In_x](Fe_3)_0_{12}$ , a limited series of solid solutions, whereas a continuous series of solid solutions can be formed in the systems  $\{Y_{3-2x}Ca_{2x}\}[Fe_{2-2x}M_{2x}]_2(Fe_3)_0_{12}$ , where  $M=Ti^{4+}, Zr^{4+}, Si^{4+}$ . In these systems, saturation magnetization for  $x=0.3$  attains a maximum and the Neel temperature drops. The initial permeability was determined on polycrystalline samples from solid solutions of the last mentioned systems. The conditions for the production of different solid solutions, the content of the second component in them, as well as the measured  $\mu_0$  values are collected in the table. The formation of the solid solutions was checked radiographically in each case. A microstructural analysis was also performed in some cases. The pores were usually no larger than fractions of a micron, and only rarely were they as large as a micrometer. Permeability rises at room temperature with the content of diamagnetic ions. This increase of  $\mu$  cannot be explained by a diminution of the magnetic anisotropy and of magnetostriction due to the approach to the Neel point; the fact must be also taken into account, as

Chart 2 5

24923

S/181/61/003/006/020/031  
B102/B201

Ferrimagnetic materials with...

has been shown by studies of the temperature dependence of  $\mu_0$ , that the maximum value of  $\mu_0$  rises with the content of diamagnetic ions. The authors believe that anisotropy and magnetostriiction drop in consequence of a diminution of the content of magnetically active ions. The value of  $\mu_0$  is determined by shifts of the domain boundaries. K. P. Belov and L. A. Fomenko are mentioned. There are 1 figure, 1 table, and 6 references: 5 Soviet-bloc and 1 non-Soviet-bloc. The reference to the English-language publication reads as follows: S. Geller. J. Appl. Phys. 31, 5, 305, 1960.

ASSOCIATION: Institut poluprovodnikov AN SSSR Leningrad (Institute of Semiconductors AS USSR, Leningrad)

SUBMITTED: January 17, 1961

Legend to the Table: 1, content of second component in mole%; 2, last thermal treatment; 3, density in g/cm<sup>3</sup>; 4, maximum temperature; 5, holding time in hours; 6, apparent density; 7, density in % of theoretical values; 8,  $\mu_0$  for t = 20°C and f = 10<sup>4</sup> cps.

Card 3/5

24923

S/181/61/003/006/020/031  
B102/B201

Ferrimagnetic materials with...

① Содержание в мол.-% второго компонента	② Окончательный обнаг.		③ Плотность г/см <sup>3</sup>		④ $\mu_0$ при $I = 20^\circ\text{C}$ $H = 10^4$ Гц	
	④ максимальная температура, °C	⑤ время вы- держки час.	⑥ измущажек	⑦ в % от тео- ретической		
<chem>Ca2YSn1Fe5O12</chem>	0	1450	2	5.00	97	144
	10	1450	2	4.70	92	230
	30	1450	2	4.81	94	556
	40	1450	2	4.83	95	694
	50	1400	4	4.82	95	153
	10	1350	6	4.46	—	188
	20	1350	6	4.43	—	256
	30	1350	6	4.67	—	326
	40	1300	2.5	4.30	—	206
	50	1300	2.5	4.80	—	42
<chem>Ce2Y2x2Fe3O12</chem>	60	1280	3	4.33	—	17
	70	1280	3	4.78	—	8
	10	1350	2	4.70	92	176
	20	1350	2	4.98	98	210
	30	1350	2	4.98	99	243
	40	1350	2	4.80	97	248
	50	1350	2	4.78	97	35

Card 4/5

Ferrimagnetic materials with ...

S/181/61/003/006/020/031  
B102/B201

$Y_3Al_5Fe_3O_{12}$	$Ca_3Fe_2Si_5O_{12}$	$Y_3Cr_2Fe_3O_{12}$				
5	1450	1.25	4.90	—	222	6
10	1450	1.25	5.00	—	250	
10	1320	1	4.82	94	49	
20	1320	1	4.82	96	17	
30	1320	1	4.52	90	2	
20	1460	1	4.60	—	60	
40	1480	1	4.52	—	33	

Card 5/5

9.2571  
15.2660  
21.7900 (1055,1144,1163)

30066  
S/048/61/025/011/011/03:  
B104/B102

AUTHORS: Gurevich, A. G., Safant'yevskiy, A. P., Solov'yev, V. I.,  
and Sher, Ye S.

TITLE: Effect of induced anisotropy upon ferromagnetic resonance

PERIODICAL: Akademiya nauk SSSR. Izvestiya. Seriya fizicheskaya, v. 25,  
no. 11, 1961, 1361 - 1367

TITLE: The authors studied the effect of electron-induced anisotropy of polycrystalline yttrium garnets upon ferromagnetic resonance from 4.2-300°K. The measuring technique used in the temperature range of 77 - 300°K had been described in a previous paper (A. G. Gurevich et al., Fizika tverdogo tela 3, no. 1, 19 (1961)). A square resonator was dipped into liquid helium with the specimen between 4.2 and 77°K. With 3.2-cm waves the resonance field  $H_{res}$  and the width  $2\Delta H$  of the resonance curve were determined from the dependence of the reflection factor  $|V|$  on the magnetic field, as recorded by an ЭПП-09(EPP-09) voltmeter. An example is illustrated in Fig. 1. Manganese-free specimens annealed at high temperatures showed a rapid increase of  $2\Delta H$  with decreasing temperature. For an initial yttrium oxide Card 1/A3 X

30066  
S/048/61/025/011/011/031  
B104/B102

Effect of induced anisotropy...

with a purity of 99.995%, the said rise cannot be attributed to rare-earth impurites. Present results show that the induced anisotropy of polycrystalline yttrium garnet is due to  $Fe^{2+}$  ions. To clarify the establishment of induced anisotropy with time, the authors determined the time dependence of  $|\Gamma|$  when the specimens were rotated through  $90^\circ$  within  $\sim 0.1$  sec.  $|\Gamma|$  did not change noticeably above  $130^\circ K$ . At lower temperatures,  $|\Gamma|$  changed abruptly during rotation, and then returned to its original value (Fig. 4). Sign and amplitude of the jump were found to depend on the constant field  $H_0$ .

It is believed that induced anisotropy is not yet fully established immediately after rotation through  $90^\circ$  and that the resonance curve at a given temperature shifts by  $H_c$  toward stronger fields relative to the static curve.  $H_c = 350$  oersteds is obtained at  $77^\circ K$ , and  $H_c = 200$  oersteds at  $10^\circ K$ . It follows from a discussion of this result that in addition to the processes that are observed after rotation, also other processes take place which have time constants considerably smaller than the time of rotations. These processes are held responsible for the major part of the induced anisotropy field. As is shown, a superposition of several processes with different time constants and activation energies of the order of 0.05 ev

Card 2/A<sub>3</sub>

24.12.00 (1137, 1144, 1164)  
15-2660

30077  
S/046/61/025/011/023/031  
B117/B102

AUTHORS: Smolenskiy, G. A., Chang Tsung, and Sher, Ye. S.

TITLE: Frequency and temperature dependences of initial permeability of ferrites with garnet structure

PERIODICAL: Akademiya nauk SSSR. Izvestiya. Seriya fizicheskaya. v. 25,  
no. 11, 1961, 1402-1407

TEXT: The frequency and temperature dependence of the magnetic permeabilities  $\mu'$  and  $\mu''$  of ferrites with garnet structure were studied. Both high-density polycrystalline specimens, and single crystals were used. (Polycrystalline yttrium-ferrite of a resistivity of  $\sim 10^6$  ohm·cm and air-sintered at 1450°C displayed a relaxation of the dispersion of  $\mu'$  at room temperature.) With rising temperature the maximum of  $\mu'(f)$  is shifted toward higher frequencies. In the state of remanent magnetization,  $\mu'$  is considerably lower than the state of zero magnetization. The magnetic spectrum of polycrystalline resistivity ferrites ( $\sim 10^{10}$  ohm·cm) differs significantly from the spectrum of ferrites with a low resistivity. The high resistivity is obtained by introducing MnO which leads to formation

Card 1/4

X

30077

S/048/61/025/011/023/031

B117/B1C2

Frequency and temperature ..

of donor-acceptor pairs. Introduction of CuO allows to reduce the sintering temperature. In this case, a temperature rise shifts the maximum of  $\mu''$  toward lower frequencies (domain-boundary resonance). High-resistivity single crystals display a similar effect, but their resonant frequency is at room temperature by one order of magnitude lower than that of polycrystalline specimens. The magnetic spectra of high-resistivity ferrites were almost independent of the state of magnetization. Magnetic spectra of one and the same specimens were examined when changing resistivity by heat treatment in various gaseous media. Measurements were made prior to and after heat treatment on toroidal single-crystal specimens. At low temperatures, resistivity was found to be inversely proportional to the initial permeability. It is pointed out that annealing might change  $\mu'$  due to a change of the domain structure as defects form or disappear. Independently of resistivity, these ferrite single crystals have low dielectric constants, a fact which was first established by Ya. M. Ksendzov. Up to now it was assumed that all ferrites with low  $\epsilon$  should have a high  $\mu$ , which was explained by macroheterogeneities of the specimens. In addition to yttrium ferrite, solid solutions based on it were examined. Values of initial permeability are presented in Table 2 for several solid solutions. As may be seen,  $\mu'$

Card 2/A<sub>3</sub>

Frequency and temperature ...

30077  
S/048/61/025/011/023/031  
B117/B102

in case of yttrium ferrite or of rare-earth ferrites does not grow larger unless diamagnetic ions are introduced into the octahedral sublattice. There are 6 figures, 2 tables, and 2 Soviet references.

Legend to Table 2: (1) content, mole%; (2) first component; (3) second component; (4) final annealing; (5) maximum temperature, °C; (6) holding time, hr; (7) initial low-frequency permeability at 20°C.

Card 3//  
3

X.

S/056/62/043/003/023/063  
B102/B104

AUTHORS: Smolenskiy, G. A., Yudin, V. M., Sher, Ye. S., Stolypin, Yu. Ye.

TITLE: Antiferromagnetic properties of some perovskites

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 43,  
no. 3(9), 1962, 877-880

TEXT: The authors studied the magnetic properties of polycrystalline single-phased  $\text{LaCrO}_3$  and  $\text{BiFeO}_3$  samples by measuring the temperature dependences of the magnetic susceptibility  $\chi$ , of  $1/\chi$  and of the spontaneous ferromagnetic moment  $m_0$ . The  $\chi(T)$  curves of both compounds showed sharp peaks at the Neel point,  $\text{BiFeO}_3$  had no spontaneous ferromagnetic moment, and that of  $\text{LaCrO}_3$  was very small but could be increased by thermomagnetic treatment. The weak ferromagnetism of these perovskites is assumed to be caused mainly by an anisotropic indirect exchange interaction. It is suggested that the exchange interaction is responsible also for the

Card 1/2

Antiferromagnetic properties of...

S/056/62/043/003/023/063  
B102/B104

noncolinearity of the spin moments, which is assumed to be the cause of no ferromagnetic moment being observed in BiFeO<sub>3</sub>. There are 2 figures and 1 table.

ASSOCIATION: Institut poluprovodnikov Akademii nauk SSSR (Institute of Semiconductors of the Academy of Sciences USSR)

SUBMITTED: April 24, 1962

Card 2/2

24.2.200  
24.7.760

431h2  
8/181/62/004/011/049/049  
B108/B186

AUTHORS: Smolenskiy, G. A., Yudin, V. M., and Sher, Ye. S.

TITLE: A new group of antiferromagnetics with  $K_2NiF_4$ -type structure

PERIODICAL: Fizika tverdogo tela, v. 4, no. 11, 1962, 3350-3351

TEXT: Compounds of the type  $A_2^{3+}B^{2+}O_4$  ( $A^{3+} = La^{3+}, Ce^{3+}, Pr^{3+}, Nd^{3+}$ ;  $B^{2+} = Ni^{2+}, Co^{2+}$ ) are antiferromagnetic when either the ions B or both the ions B and A have magnetic moments. Crystals of this type are assumed to consist of perovskite-type layers mutually displaced. When only the B have magnetic moments, interaction will occur through one or two oxygen atoms (B-O-B or B-O-O-B). When also the ions A have magnetic moments, interaction may be indirect or direct (A-O-A, A-O-B, A-A). The temperature dependence of the magnetic susceptibility  $\chi$  of the compounds  $La_2NiO_4$  and  $Nd_2NiO_4$  was examined over the range  $77-1100^{\circ}K$ . The specimens were obtained by solid-phase reaction at  $1200^{\circ}C$  of the materials  $La_2O_3$ ,  $Nd_2O_3$ , and NiO. The temperature  $\Theta$ , obtained by extrapolation of  $1/\chi(T)$  from high-temperature

Card 1/2

A new group of antiferromagnetics ...

S/181/62/004/011/049/049  
B108/B186

regions, equals 500°K for  $\text{La}_2\text{NiO}_4$  and 440°K for  $\text{Nd}_2\text{NiO}_4$ . The effective magnetic moments as determined from the inclination of the  $1/\chi(T)$  curve is 3.7 Bohr's magnetons for  $\text{La}_2\text{NiO}_4$  and 7.5 Bohr's magnetons for  $\text{Nd}_2\text{NiO}_4$ .

The dependence  $\chi(T)$  is linear at high temperatures but tends to a maximum corresponding to phase transition on approaching the Neel point. This is characteristic of weak ferromagnetics. The antiferromagnetic behavior of the substances in question can be inferred from the negative sign of the temperature  $\Theta$ ; however, a weak ferromagnetism may arise as the result of relativistic interactions. There are 2 figures.

ASSOCIATION: Institut poluprovodnikov AN SSSR, Leningrad (Institute of Semiconductors AS USSR, Leningrad)

SUBMITTED: July 26, 1962

Card 2/2

ACC NR: AP6029825

(A)

SOURCE CODE: UR/0363/66/002/008/1487/1491

AUTHOR: Toropov, N. A.; Sher, Ye. S.; Boykova, A. I.

ORG: Institute of Silicate Chemistry im. I. V. Gribenshchikov, Academy of Sciences,  
SSSR (Institut khimii silikatov Akademii nauk SSSR)

TITLE: Study of the products of thermal treatment of muscovite

SOURCE: AN SSSR. Izvestiya. Neorganicheskiye materialy, v. 2, no. 8, 1966, 1487-  
1491

TOPIC TAGS: mica, thermal decomposition

ABSTRACT: Samples of ground muscovite were fired at 600-1400°C at 50° intervals for 3 hr at each temperature and the products formed were analyzed by optical examination, x-ray diffraction, differential thermal analysis, and infrared spectroscopy. The first structural changes were observed at 700°C. Thermal treatment at 1000°C was associated with the breakdown of the structure and with amorphization. The formation of new crystalline phases occurred at temperatures above 1000°C. The following compounds were identified by x-ray diffraction:  $\gamma$ -Al<sub>2</sub>O<sub>3</sub>, spinel MgAl<sub>2</sub>O<sub>4</sub>, sanidine, K<sub>2</sub>O·Al<sub>2</sub>O<sub>3</sub>·6SiO<sub>2</sub>,  $\alpha$ -Al<sub>2</sub>O<sub>3</sub> (corundum). On the basis of the infrared spectra of muscovite samples subjected to different temperatures, a quantitative description of the decomposition process of mica is proposed (see Fig. 1). Authors are grateful to G. P. Stavitskaya, who took the IR spectra. Orig. art. has: 6 figures and 1 table.

Card 1/2

UDC: 661.862.65

"APPROVED FOR RELEASE: 08/23/2000

CIA-RDP86-00513R001549220014-3

ARONOV, V.L.; SHER, Yu.A.

Frequency properties of semiconductor triodes with distributed  
parameters. Poluprov.prib. i ikh prim. no.3:75-91 '58.  
(MIRA 12:4)

(Transistors)

APPROVED FOR RELEASE: 08/23/2000

CIA-RDP86-00513R001549220014-3"

PAGE I BOOK EXPLOITATION

307/4034

Polypropylene; Physics 1 (in Russian); Siberian State, typ. 4.  
 (Semiconductor Devices and Their Applications Collection of Articles, No. 4)  
 Moscow, Izd-vo "Radio i Svyaz", No. 1, 1960. 421 p. Extracts slip 2 inserted.  
 No of copies printed not given.

Ed. (Title page): Ya. A. Peshov; Ed. (Inside book): Z. M. Vol'nov; Tech. Ed.: I. A. Shchukin; Editorial Board: Ya. A. Peshov, Z. M. Vol'nov, I. A. Shchukin, L. G. Karpovskiy, A. N. Krylov, Yu. I. Ogorodnikov, V. A. Kuznetsov, S. P. Kostyuk, Yu. V. Kravtsov, A. A. Lebedev, V. P. Slobodcikov, N. I. Pashin, and V. P. Stepanov.

Purpose: This collection of articles is for technicians and scientists working in the field of semiconductors.

Content: These articles cover the following problems: physical processes occurring in semiconductor diodes and transistors; transistor parameters and methods and instruments for measuring them; special features of transistor operation in oscillating and rectifying circuits; and circuits and systems utilizing transistors. Several articles mention personalities. References accompany most articles.

Kolodkin, Yu.A., Methods of Measuring Radio Frequency Transistor Parameters

101  
The author characterizes the frequency properties of nondrift transistors by parameters of an equivalent circuit.

Kolodkin, Yu.A., and Yuli Shar, Measurements of Cut-off Frequency in the 20-200 Mc/Sec. Range

123  
The method of measuring current amplification factor frequency is described for transistors in greatest case circuits.

Lobzin, V.E., Mutual Action of Static Transistor Parameters

139  
The proportion of areas of junction transistor parameters permits application of a number of amplifier stage criteria.

Petrov, Yu.V., Junction Transistor Equivalent Circuits for High Differential Voltages

159  
The relationships between the parameters of a junction transistor [1] - charge of equivalent circuit having a grounded emitter and the collector, and the base voltage at the level of frequencies is analyzed. Equivalent transistor parameters with high sinusoidal voltage at the collector input and output are calculated.

Akimenko, A.A., Investigation of Threshold Operating Conditions of Transistor Junction Diodes

179  
Methods of investigating saturation junction diodes by proton beam radiation are given. One method uses an ionization of Si-Pt diode and another uses a glow discharge. The second method is more reliable.

Akimenko, A.A., Investigation of Current Transistors at High Differential Voltages (Part II)

181  
Results of investigation of junction transistors in a circuit with a grounded collector are given.

Akimenko, A.A., Method of Selecting High-Power Transistors for Operation in a Pulse-Modulated Circuit

203  
The principle according to which transistor pulse should be selected for operation in a pulse-modulated circuit with a certain active load, without regard to the collector, is explained. The conditions which should be met in selecting its optimum and maximum output.

Borodov, A.Y., Semiconductors Utilized in Detection Transistor Amplifiers. In a Pulse-Modulated Circuit

208  
Technical principles of junction transistors are briefly explained and the analysis is made for transistors having harmonic distortions and oscillations. A description is given of special features of nonlinear characteristics of high-frequency transistors. There is an examination of nonlinear distortions in multistage transistors amplifiers.

Stern-Lugavaya, G.P., Stability and Acquisition of Polar-Currents Transistors Using Series and Parallel and Common Collektors

221  
Formulas of stability limits on external impediment to the collector, formulas for calculating stability and acquisition of circuits with grounded emitter and collector are given.

Stern-Lugavaya, G.P., and Iur. Rabinovitz, Amplifier Stage Input Impedance of A Ground Junction Transistor

226  
Equivalent circuits are given for the negative stage input circuit of a ground junction transistor. The equivalent circuit of a circuit having a grounded base emitter and collector, having a

L 25058-56 EEC(k)-2/EWT(l)/T/EWA(h) IJP(c)  
 ACC NR: AT5025634

SOURCE CODE: UR/2657/65/000/013/0023/0064

AUTHOR: Sher, Yu. A.

ORG: none

TITLE: Generalized formulas for differential parameters of junction transistors

SOURCE: Poluprovodnikovyye pribory i ikh primeneniye; sbornik statey, no. 13, 1965, 23-64

TOPIC TAGS: transistor, transistor theory, junction transistor

ABSTRACT: Introduction. Zero boundary conditions at the base edge were assumed in the classical V. Shockley works and in the J. Early article (BSTJ, 1954, v. 33) on the theory of junction transistors. This fundamental assumption is claimed to be inaccurate. Equivalent velocity at the strong-field region boundary; boundary conditions. D-c conditions are considered. These general formulas are developed for the equivalent velocity:

$$v_p(t) = \frac{1}{\left[ \frac{1}{v_{ep}} - \frac{1}{v_{Ep}} \right] e^{-At} + \frac{1}{v_{Ep}}},$$

$$v_n(t) = \frac{1}{\left[ \frac{1}{v_{en}} - \frac{1}{v_{En}} \right] e^{At} + \frac{1}{v_{En}}}.$$

Carrier concentration at the base-collector-junction boundary exceeds the Shockley-evaluated concentration by  $10^{12} - 10^{14}$  times. These boundary conditions are proposed to replace the Shockley conditions:

$$\rho_{sc} = \rho_p(W) = \frac{I_p}{v_{max}}, \quad v_o = v_{max}. \quad \text{The drift velocity}$$

Carri 1/3

UDC: 621.382.31

L. OBERHOLZER

ACC NR: AT5025634

varies gradually in the real structures; hence, a better model consisting of three segments (accelerating, maximum, decelerating) is suggested. The voltage variation across the collector junction is different in alloy and drift transistors. Approximate formulas for the charge density in alloy and diffusion junctions are developed. Specific formulas for the equivalent velocity are: for Ge collector junction,

$$v_o = \frac{v_{max}}{1 + \left( \frac{v_{max}}{v_{av}} - 1 \right) \Lambda u_{2k}} ; \text{ for Si collector junction, } v_o \approx \frac{v_{av}}{\sqrt{\Lambda u_{2k}}} . \text{ Corrections for}$$

a-c conditions are introduced. A model of the emitter junction is briefly analyzed. Generalized formulas for differential parameters. Small-signal y and h parameters of a theoretical model with a "multilayer" base are determined on the basis of conventional Shockley boundary conditions. The reasons why these formulas are inaccurate are specified. Then, the modulation of minority-carrier velocity in the base is allowed for, and a technique is shown for deriving more accurate differential-parameter formulas. Parameters of a theoretical model having a uniform distribution of the drift velocity in the base. As an illustration of the above approach, formulas for the open-circuit forward- and reverse-current transfer factor are developed, and the effect of boundary conditions on the forward parameters is analyzed. These conclusions are offered: (1) The concept of equivalent velocity facilitates formulation

Card 2/3

L 23053-66

ACC NR: AT5025634

of collector-base boundary conditions; (2) This concept permits developing general differential-parameter formulas which allow for the base "multilayer" structure and actual d-c and a-c boundary conditions; (3) Collector-junction voltage variation, with a nonuniform distribution of impurity  $N(x)$  at the base edge causes equivalent-velocity modulation at the boundary due to variation of the slope of  $E(x)$  field curve in the junction; (4) The collector-junction voltage variation may cause a modulation of the equivalent velocity in the base; (5) A variable charge density, with a constant voltage across the emitter junction, is possible due to modulation of the equivalent velocity in the base, at the emitter boundary; (6) To formulate the boundary conditions in the base, at the collector, a three-segment model of the reverse-biased collector junction is established; (7) The boundary conditions at the emitter are determined with an assumption that the drift velocity at the emitter junction can be averaged; (8) In comparing the new transistor model with the conventional (Shockley) model, it should be kept in mind that the true field distribution  $E(x)$  in the base and the absolute field value  $|E|$  have not been measured so far; (9) The author's formulas hold true when the field strength and  $\mu$  and D factors are independent of the concentration of the injected (at low level) minority carriers. "The author wishes to thank Yu. A. Kamenetskiy for discussing the problems of this article." Orig. art. has: 1 figure and 158 formulas.

SUB CODE: 09 / SUBM DATE: none / ORIG REF: 006 / OTH REF: 004

Card 3/3

9.4310 (1139, 1143, 1159)

30124  
S/194/61/000/007/040/079  
D201/D305

AUTHORS: Kamenetskiy, Yu.A. and Sher, Yu.K.

TITLE: Cut-off frequency measurement in the 20-200 mc/s band

PERIODICAL: Referativnyy zhurnal. Avtomatika i radioelektronika, no. 7, 1961, 21, abstract 7 D138 (V sb. Poluprovodnik, pribory i ikh primeneniye, no. 4, M., Sov. radio, 1960, 128-138)

TEXT: A method is given of measuring the current amplification cut-off frequency in common base connection. The voltages  $U_1$  and  $U_2$  at the resistances  $R_e$  and  $R_c$  in the emitter and collector circuits respectively are proportional to the respective currents. These voltages are applied in an anti-phase after detection and amplification to an adder. At LF

$$|U_1| / |U_2| = |I_c| / |I_e| = \alpha_o.$$

Card 1/2

X

1. СУПР, Ю. М.
  2. USSR (600)
  4. Veneers and Veneering
  7. Drawing veneer lining into hollow panels. Der. i lesokhim. prom., 2, No. 2, 1953.
9. Monthly List of Russian Accessions, Library of Congress, May 1953, Uncl.

SHER, Yu.M.

[Hollow wooden building panels] Pustotelye shchity iz drevesnykh  
materialov. Moskva, Goslesbumizdat, 1954. 50 p. (MLRA 7:7)  
(Plywood)

SHER, Yu. M.

"Investigation of the Shape Deformation of the Facings of Hallow Carpenter's Benches." Cand Tech Sci, Moscow Forestry Engineering Inst, Min Higher Education USSR, Moscow, 1955. (KL, NO 18, Apr 55)

SO: Sum. No. 704, 2 Nov 55 - Survey of Scientific and Technical Dissertations Defended at USSR Higher Educational Institutions (16).

MILOV, Sergey Grigor'yevich; SHER, Yuliya Mikhaylovna; OBRAZTSOV, S.A.,  
redaktor; TRUBNOVA, L.A., redaktor; AGAPOV, F.P., tekhnicheskiy  
redaktor

[Work methods of innovators in sawmilling and woodworking] Metody  
truda novatorov lesopileniya i derevoobrabotki. Moskva, Goslesbum-  
izdat, 1955. 17 p.  
(Woodworking industries)

SHER, Yu.M.; VOLKOV, M.A.; BALASHOV, B.V.; KRUGLOVA, T.P.

New standards for packing boxes. Der.prom. 8 no.3:14-15 Mr '59.  
(MIRA 12:4)

1. TSentral'nata nauchno-issledovatel'skaya laboratoriya Rybtara.  
(Boxes--Standards)

SHER, Yu.M.

Standardization of containers. Standartizatsiya 24 no.12;21-24  
D '60. (MIRA 13:11)  
(Containers--Standards)

SHER, Yu.M., kand. tekhn. nauk

New kind of stock and repeated-use containers. Der. prom.  
(MIFRA 18:12)  
14 no.9:3-4 S '65.

DENISOV, Grigoriy Arsent'yevich; SOPOV, Grigoriy Khristoforovich;  
SHEREMET, Leonid Davidovich; DEVOCHKIN, N.I., red.

[The "Krep'" state farm] Sovkhoz "Krep'", Volgograd,  
Nizhne-Volzhskoe knizhnoe izd-vo, 1964. 39 p.  
(MIRA 18:2)

SHERA, I.<sup>D</sup>

D

Finansirovaniye i kreditovaniye kapital'nykh  
vlozheniy (by) P.D. Podshivalenko (i) I.D. Shera.  
Moskva, Gosfinizdat, 1960.

376 p. tables.

Bibliographical footnotes.

SHERA, K.

85-8-16/18

AUTHOR: Shera, K.

TITLE: Plotting the Polar of a Glider Model on the Basis of a Practical Experiment (Eksperimental'noye polucheniiye polary modeli planera)

PERIODICAL: Kryl'ya Rodiny, 1957, Nr 8, pp. 28-29 (USSR)

ABSTRACT: The author describes a way of finding out the optimum angle of attack for a given glider model by plotting the polar of the model on the basis of a practical experiment. First, he explains in detail how the gliding angle of a glider model may be determined by photographing the flight of the model against the background of luminous points, and then he offers a series of elementary formulas permitting to figure out the aerodynamic efficiency  $K$  of the model, and the lift force  $C_y$ , and the drag  $C_x$  the model with a given angle of attack will develop under definite conditions of temperature  $t$ ° and atmospheric pressure  $P$ . The author indicates also that photographing the flight of a glider model in an artificially agitated air may contribute to appraising the

Card 1/2

85-58-1-26/28

AUTHOR: Shera Kary

TITLE: Aerodynamics of Model Airplane Profiles (Aerodinamika aviamodel'nykh profiley); Helicopter Model (Model' vertoleta); World Champions' Models (Modeli chempionov mira)

PERIODICAL: Kryl'ya rodiny, 1958, Nr 1, Supplement (USSR)

ABSTRACT: The author discusses aerodynamics as applied to model airplanes and describes certain models and their construction. There are 29 sketches and diagrams.

AVAILABLE: Library of Congress

Card 1/1

ПОДЧИСЛЕННИКИ, В. М.

И. И. Балхин and В. С. Широкин. Project of Joint Characteristics in the Auto-Tractor industry. I. 1387

CC: Trust. of Auto-Tractor Industry

cc: Industrial Informancy (ISS) 16, No. 11 (Nov. 1950)

SHERASHOV, S.G. (Leningrad)

Certain characteristics of reflex regulation of blood circulation and respiration in surgical shock. Arkh.pat. 18 no.6:70-76 '56. (MIRA 9:12)

1. Iz kafedry patologicheskoy fiziologii (nachal'nik - chlen-korrespondent AMN SSSR prof. I.R.Petrov) Voyenno-meditsinskoy ordena Lenina akademii imeni S.M.Kirova.

(SHOCK, experimental,

reflex regulation of blood pressure & resp. in post-evisceration shock (Rus))

(BLOOD PRESSURE, physiology,

reflex regulation in exper. post-evisceration shock (Rus))

(RESPIRATION, physiology,

same)

SHERASHOV, S.G., podmolkovnik med.sluzhby, kand. med. nauk

Mechanical injuries and irritations induced by the intestinal contents in the development of early complications of intestinal wounds. Voen.-med. zhur. no.6:80-81 Je '58. (MIRA 12:7)  
(INTESTINES—WOUNDS AND INJURIES)

VASADZE, G.Sh.; SHERASHOV, S.G.

Change in sensitivity to visceral trauma of animals in radiation sickness. Med.rad. 4 no.10:59-66 0 '59. (MIRA 13:2)

1. Iz kafedry patologicheskoy fiziologii (nach. - chlen-korrespondent AMN SSSR prof. I.P. Petrov) Voyenno-meditsinskoy ordena Lenina akademii imeni S.M. Kirova.

(RADIATION INJURY exper.)  
(WOUNDS AND INJURIES exper.)

SHERASHOV, S.G., kand.med.nauk

Prevention of surgical shock in operations on organs of the abdominal cavity; experimental studies. Khirurgiia 35 no.7:89-93 Jl '59.

(MIRA 12:12)

1. Iz kafedry patologicheskoy fiziologii (nacu. - chlen-korrespondent AMN SSSR prof. I.R. Petrov) Voyenno-meditsinskoy ordena Lenina akademii im. S.M. Kirova.

(ABDOMEN, surgery)  
(SHOCK, experimental)

SHERASHOV, S.G., kand. med.nauk, podpolkovnik meditsinskoy sluzhby;  
BURENIN, P.I., kand.med.nauk, podpolkovnik meditsinskoy sluzhby;  
MOROZOV, V.H., kapitan meditsinskoy sluzhby

Barotrauma of the ear following the action of air percussion wave of  
nuclear explosions; review of literature. Voen.-med.zhur. no.7:39-44  
'64. (MIRA 18:5)

SHERASHOV, S.G., podpolkovnik meditsinskoy sluzhby, kand. med. nauk

"Blinding" and retinal burns caused by nuclear explosions; a review  
of literature, Voen.-med. zhur. no.10:23-26 '64. (MIRA 18:5)

SHFRAYZIN, S.M.

Use of transistor diodes for stabilizing the operation of relaxation oscillators. Elektrosviaz' 17 no.12:43-51 D '63. (MIRA 17:2)

.. 42102-00

ACC NR:	AR6013876	SOURCE CODE:	UR/0274/65/000/011/B023/B023
---------	-----------	--------------	------------------------------

AUTHOR: Sherayzin, S. M.

47

B

TITLE: An analysis of the passage of an index signal through the electric sections of a control system

SOURCE: Ref. zh. Radiotekhnika i elektron svyaz', Abs. 11B178

REF SOURCE: Tr. Uchebn. in-tov svyazi, vyp. 25, 1965, 123-130

TOPIC TAGS: communication, signal activity, color TV, color TV tube, electron beam, signal distortion, phase shift analysis, TV receiver

ABSTRACT: Index signals, which determine the position of the electron beam on the screen of a picture tube with color bands, undergo in a television receiver a series of transformations. The phase shift emerging with the transformations may lead to distortions in the color transmission. A mathematical expression of the index signals was derived. The output voltage of a four-terminal network to which the index signals were supplied was calculated. An aperiodic amplifier, low frequency filters of type k and m, a band-pass filter of type m, and single oscillator circuit were chosen as concrete examples of a four-terminal network. A numerical calculation showed that in the latter case the phase shift can exceed  $10^{\circ}$ , and in the first case it is a fraction of a degree. With the correct selection of the parameters of the low frequency filter the phase shift does not exceed  $1^{\circ}$ . In all cases special measures must be taken to

Card 1/2

UDC: 621.397.62-2

Distr: 4E2c(j)/4E4j

✓ Standard media for weight swelling determinations on stocks. M. A. Sherbacheva and S. S. Guseva, *Kauchuk i Resina* 10, No. 8, 16-18 (1957). — The swelling effect of any petroleum oil on a cured SKN-18 (butadiene-nitrile) stock can be duplicated by a mixt. of standard green oil (I) and hexadecane having the same aniline point. Such a mixt. in variable proportions is recommended as a standard swelling medium. The I has 80% high mol. wt. aromatic hydrocarbons, 20% normal paraffins; the aniline point is  $-10 \pm 3^\circ$ .

Malcolm Anderson

Jay

4  
L May  
2

68895

S/051/60/008/02/022/036

E201/E391

AUTHORS: Al'perovich, L.I., Sherbat, I.D. and Marupov, R.TITLE: On the Origin of Luminescence of Liquids Under the Action  
of Hard RadiationsPERIODICAL: Optika i spektroskopiya, 1960, Vol 8, Nr 2,  
pp 259 - 261 (USSR)

ABSTRACT: The authors compared intensities of luminescence of certain aromatic and non-aromatic solvents and solutions excited with X-rays from a tube across which voltage was varied from 30 to 200 kV (at these voltages Vavilov-Cherenkov radiation is not emitted). The same samples were subjected also to excitation with  $\gamma$ -rays from  $\text{Co}^{60}$  (10 millicuries), using a technique described by Kallman and Furst (Ref 1). The intensity of luminescence was measured with a photomultiplier FEU-19M. In measurements using X-rays the effect of secondary and scattered radiation was allowed for. The authors measured the concentration dependences of the intensity of luminescence of solutions of anthracene,<sup>7</sup> naphthalene,<sup>7</sup>  $\beta$ -naphthylamine,<sup>7</sup> phenanthrene<sup>7</sup> and stilbene<sup>7</sup> in xylene,

Card 1/2

IVANOV, A.P.; SHERBAF, I.D.

Angular distribution of radiation in a medium illuminated  
by a narrow pencil of rays. Dokl. AN BSSR 7 no.10:673-676  
O '63. (MIRA 16:11)

1. Institut fiziki AN BSSR. Predstavлено академиком AN BSSR  
B.I. Stepanovym.

L 43083-65 EWT(1)/EPF(c)/EEC(t) PI-4 IJP(c) KW/GG/GS

ACCESSION NR: AT5011181

UR/0000/64/000/000/0267/0275

28

AUTHOR: Ivanov, A. P.; Sherbaf, I. D.

27

B71

TITLE: Dispersion of a projection in a turbid medium

SOURCE: Mezhdunarodnoye soveshchaniye po aktinometrii i optike atmosfery. 5th, Moscow, 1963. Aktinometriya i optika atmosfery (Actinometry and atmospheric optics); trudy soveshchaniya. Moscow, Izd-vo Nauka, 1964, 267-275

TOPIC TAGS: light dispersion, atmospheric optics, projector beam,  
photometric instrument

ABSTRACT: A series of experimental investigations of the dispersion of a narrow beam of light has been conducted under laboratory conditions, in which all optical constants of the medium are known and their effect on the dispersion can be determined. The results of these investigations are presented, particularly the analysis of angular and polarization characteristics of dispersed radiation. The measurements were made in a 50 x 50 x 50-cm container filled with various turbid liquids. The container was illuminated by a narrow, parallel, mono-

Card 1/2

L 43083-65

ACCESSION NR: AT5011181

chromatic beam of light. Thanks to a special attachment to the light guide, the degree of polarization, as well as the brightness of dispersed radiation could be measured at various angles of observation and at various points in space. The following systems were used as turbid media: milk, rosin, silver chloride, stannous chloride, and barium hydroxide. The experimental data obtained are presented graphically with detailed explanation in the text. The investigations analyzed dealt with the field of light which was basically outside the geometric zone of the propagation of the parallel beam of light. It is planned to conduct further investigations dealing with the structure of the field of light in the dispersing medium in the zone of the projector beam. Orig. art. has: 6 figures and 1 formula. [JJ]

ASSOCIATION: Institut fiziki AN BSSR, Minsk (Institute of Physics,  
AN BSSR)

SUBMITTED: 25Nov64

ENCL: 00 SUB CODE: OP

NO REF SOV: 006

OTHER: 005 ATD PRESS: 323B

AM  
Card 2/2

IVANOV, A.F.; SHERBAF, I.D.

Effect of the angular aperture of an emitter on illuminance  
in a scattering medium. Dokl. AN BSSR 9 no. 5:301-304 My '65  
(MIRA 19:1)

I. Institut fiziki AN BSSR. Submitted April 22, 1964.

ACC NR: AP6011374

ISIP(c) TM/RS/RW

SOURCE CODE: UR/0362/66/002/003/0312/0315

AUTHOR: Ivanov, A. P.; Sherbaf, I. D.

45  
B

ORG: Physics Institute, Academy of Sciences BSSR (Akademiya nauk BSSR, Institut fiziki)

TITLE: Effect of the angular dispersion of a light beam on its penetration into a scattering medium

SOURCE: AN SSSR. Izvestiya. Fizika atmosfery i okeana, v. 2, no. 3, 1966, 312-315

TOPIC TAGS: optic property, ocean property, oceanography, light dispersion, light scattering, water

ABSTRACT: The problem of the effect of the angular dispersion of a light beam on illumination in a turbid medium was investigated experimentally. The experiments were set up in a small basin filled with turbid water. The method of investigation was such that it was possible to change both the angular aperture of the radiator from 0.5 to 180° at a constant luminous flux entering the water and the optical characteristics of the medium, the probability of photon survival, and the optical depth. The cross sectional area of the light beam entering the water was 3.14 cm<sup>2</sup>. The authors examined the region of small optical depth which corresponds to a slightly turbid atmosphere, space, and water to shallow depths; the region of average optical

Card 1/2

UDC: 551.593

L 37090-66 EWT(1)  
ACC NR: AP6017594

SOURCE CODE: UR/0250/66/010/001/001B/0021

43

B

AUTHOR: Ivanov, A. P.; Sherbaf, I. D.

ORG: Institute of Physics, AN BSSR (Institut fiziki AN BSSR)

TITLE: Influence of the polarization properties of external radiation on the illumination of different sections of a turbid medium

SOURCE: AN BSSR. Doklady, v. 10, no. 1, 1966, 18-21

TOPIC TAGS: light polarization, radiation intensity, light scattering, light polarization, ILLUMINATION OPTICS

ABSTRACT: To check on a hypothesis that in a strongly turbid medium the orientation of the intensity vector of the external radiation would be less important than in a weakly turbid medium, and to obtain quantitative estimates of this difference, the authors have experimented with the influence of the electric-intensity vector orientation on the illumination produced by radiation in a light-scattering medium. The investigations were carried out with apparatus described earlier (Opt. i spektr. v. 18, no. 4, 1965). The polarization plane was rotated with the aid of a polaroid. The theory of the experiment is briefly described. The tests were made with the optical receiver immersed in the turbid medium to different depths. Plots are presented of the percentage change of electric intensity against the orientation of the electric vector and against the extinction coefficient. The results show that the larger the extinction coefficient, the smaller the influence of the polarization angle on the

Card 1/2

L 37090-66

ACC NR: AP6017594

intensity. The plots of the change of intensity against the polarization angle are symmetrical about the value at  $90^\circ$ , at which their relative change of intensity has a maximum. It is concluded from the results that at large distances from the point of penetration of the light into the medium, or in the case of strong turbidity, differences in the orientation of the electric intensity vector of the incident radiation do not change the illumination noticeably. However, when the turbidity is low and the multiple scattering is small, the illumination may change by a factor of two as the angle of polarization changes from 0 to  $90^\circ$ . This report was presented by AN BSSR Academician B. I. Stepanov. Orig. art. has: 2 figures.

SUB CODE: 20/ SUBM DATE: 28Aug65/ ORIG REF: 003

rec  
Card 2/2

ACT TWO

11

Azimov, Ivanov, A. S.; Sherbatyuk, I. N.

ORG: POC: 1

FIGURE 1. Acceptance of a narrow parallel beam of light in a turbid medium.

SOURCE: Zhurnal prikladnoy spektroskopii, v. 5, no. 2, 1966, 195-201

TOPIC TAGS: light beam, turbidity, turbid medium, light absorption, light attenuation, extinction coefficient, absorption coefficient, *ILLUMINATION OPTICS, OPTICAL DEPTH*

**ABSTRACT:** The attenuation of a narrow beam of light in a turbid medium consisting of water in a tank, with optical density controlled by addition of milk or rosin, has been investigated. The absorptivity was varied by dissolving premeasured amounts of aniline black. A narrow collimated beam at  $\lambda = 546$  nm with a  $3.4\text{-cm}^2$  cross section and a divergence of  $1^\circ$  was produced by passing radiation from a DFSh-250 lamp through a mercury filter. The results of the experiments were summarized in the form of graphs of the dependence of illumination on the optical depth at different values of the extinction coefficients ( $\epsilon$ ) and the dependence of illumination on the square of the extinction coefficient at different values of the optical depth ( $\tau$ ). It was shown that as a result of the negligible contribution of scattering, attenuation of light in slightly turbid media, in which  $\epsilon < 0.05 \text{ cm}^{-1}$  and  $\tau$  is less than 10, obeys the exponential law of absorption (Bouguer-Lambert

Card 1/2

UDC: 535.32/58

ACC NR: AP6030717

law). However, in media with larger coefficients of extinction, the exponential law of absorption is not obeyed at any depth, with the illumination at constant  $\tau$  increasing with the increasing coefficient of absorption. As  $\tau$  was increased at constant  $\Lambda = \sigma/(k + \sigma)$ , where  $k$  is the turbidity and  $\sigma$  is the absorption coefficient, the intensity of the scattered light was observed to increase, reach a peak, and then decrease to a limiting value equal to  $E/E_0$ , where  $E$  and  $E_0$  are the illumination inside and at the surface of the medium, respectively. As  $\epsilon$  increased the peak shifted toward larger  $\tau$ . The maximum illumination, which depends only on the scattered light, increases monotonically with  $\epsilon$ . The maximum illumination is sharper the smaller the value of  $\epsilon$ . Orig. art. has: 7 figures and 1 formula. [CS]

SUB CODE: 20/ SUBM DATE: 30Sep65/ ORIG REF: 005/ ATD PRESS: 5084

Card

11-207-07 2M(1)  
ACC NR: AF6024356

SOURCE CODE: UR/0428/66/000/001/0121/0127

30

AUTHOR: Ivanov, A. P.; Sherbaf, I. D.

ORG: none

TITLE: Influence of optical parameters on the scattering of a narrow beam of light in a turbid medium

SOURCE: AN BSSR. Vestsi. Seryya fizika-matematichnykh navuk, no. 1, 1966, 121-127

TOPIC TAGS: light scattering, turbid medium, photon scattering, optic property

ABSTRACT: The authors report the results of optical measurements made by a procedure they developed and described elsewhere (Optika i spektroskopiya v. 18, no. 4, 1965 and earlier) for producing turbid media whose parameters can be varied and which are suitable for optical scattering measurements. The measurements were made in a small cell with a light beam of  $3.14 \text{ cm}^2$  area and divergence angle smaller than  $1^\circ$ , using an end-window photomultiplier (FEU-25) capable of measuring the illumination in various sections of the medium, in a radial direction relative to the beam propagation direction. The parameters varied were the photon survival probability ( $\Lambda$ ), the extinction coefficient ( $\epsilon$ ), and the longitudinal and radial coordinates of the observation point ( $r_h$  and  $r_r$ ). It is shown that for equal values of  $r_h$ , the amount of radially scattered radiation decreases with decreasing  $\Lambda$ . The extinction coefficient has an important influence on the shape of the beam-spreading curve at small  $r_h$  and is of no importance for large  $r_h$ . Diagrams of isophots, characterizing the geometric locus of the points

Card 1/2

L 09309-67

ACC NR: AR6024336

of constant illumination in spece, are presented for different values of  $\Lambda$  and  $\epsilon$ .  
Orig. art. has: 4 figures.

SUB CODE: 20/ SUBM DATE: 200ct65/ ORIG REF: 004

Card 2/2

SHERBAK, A., master sparta.

Long range flight in a lightweight glider. Kryl.red.6 no.12:  
9-10 D '55. (MIRA 9:4)  
(Gliding (Aeronautics))

SHERBAF, I.D.; IVANOV, A.P. [Ivanou, A.P.]

Design of apparatus for studying various properties of light-diffusing objects. Vestsi AN BSSR. Ser. fiz.-tekhn. nav. no.2:  
39-43 '62. (MIRA 18:4)

L 54790-65

ACCESSION NR: AP5015779

UR/0250/65/009/005/0301/0304

AUTHOR: Ivanov, A. P.; Sherbak, I. D.

TITLE: The effect of the angular aperture of an emitter on the illumination in a scattering medium

SOURCE: AN BSSR. Doklady, v. 9, no. 5, 1965, 301-304

TOPIC TAGS: turbid medium, scattering medium, illumination

ABSTRACT: Scattering turbid media (milk and rosin) were used to investigate experimentally the dependence of illumination on the angular aperture of the emitter. It was concluded that 1) for small optical thicknesses, the role of the solid angle subtended by the emitter is important since a slight decrease in the angular aperture leads to a sharp increase in the depth of penetration of light into the medium; 2) at given optical depths, depending both on the angular aperture and on the coefficient of scattering and absorption of the turbid medium, the relative change in the illumination, corresponding to different angular apertures, attains a maximum; and 3) for large optical thicknesses at different depths, the role of the angular structure of a narrow light beam incident on a medium remains unchanged—the angular aperture affects the illumination, but the

Card 1/2

L 54790-65  
ACCESSION NR: AP5015779

effect is minimal. It was also observed that the dependence of illumination on the angular aperture becomes more appreciable as the absorptive power is increased. Also, in highly absorbent media the illumination at large depths is more dependent on the illuminating conditions than in the weakly absorbent media. Orig. art. has: 1 formula and 2 figures. [YK]

ASSOCIATION: Institut fiziki AN BSSR (Physics Institute, AN BSSR)

SUBMITTED: 22Apr64 ENCL: 00 SUB CODE: OP

NO REF SOV: 002 OTHER: 000 ATD PRESS: 4029

Card 2/2

"APPROVED FOR RELEASE: 08/23/2000

CIA-RDP86-00513R001549220014-3

IVANOV, V. N. (cont'd.)

On the left wall, there is a white medium illuminated by a narrow  
radiation from left. Spectrum 18 nm. (18:8-703 Ap 165°)  
(MIRKA 18:8)

APPROVED FOR RELEASE: 08/23/2000

CIA-RDP86-00513R001549220014-3"

BYK, S.Sh.; SHERBAK, L.I.; STROITELEVA, R.G.

Phase equilibria in the system: phenol - water - methylethyl ketone.  
Part 2. Zhur.fiz. khim. 30 no.2:305-312 P '56. (MLRA 9:?)  
(Phase rule and equilibrium) (Ketone) (Phenols)

SHERBAKOV, A.

Bring the experience of production leaders to the masses. Sots. trud  
no.1:81-88 Ja '56. (MLRA 9:7)  
(Efficiency, Industrial)

SHERBAKOV, A.A.; YUR'YEV, Yu.K.

Preparation of furfurole from agricultural wastes and from plant materials. Zhur.prikl.khim. 29 no.1:110-118 Ja '56. (MLRA 9:5)

1. Moskovskiy gosudarstvennyy universitet i Vinnitskiy gosudarstvennyy Meditsinskiy institut.  
(Furaldehyde)

SHERBAKOV, A.P.

Population and biome dynamics of certain representatives of  
the microbenthos of Glubokoye Lake. Trudy Gidrobiol. ob-va  
no. 6:122-132 '55.  
(MIRA 8:9)

1. Biologicheskaya stantsiya na Glubokom ozere Instituta  
morfologii zhivotnykh Akademii Nauk SSSR  
(Glubokoye Lake--Fresh-water biology)

Sherbakov, Boris Dmitrievich

Sistema elektropitaniya BESN-2 na vypryamitelyakh tipa BSS-51.  
Moskva, Vts AN SSSR, 1960.

29 (1) p. charts, tables.

At head of title: Akademiya Nauk SSSR. Vychislitel'nyy Tsentr.

Bibliography: p. (30)

1.1100  
25903

S/121/61/000/002/001/005

A207/A101

AUTHORS: Voronin, A. A., Markov, A. I., Sherbakov, M. A.

TITLE: Ultrasonic vibrations in grinding cutting tools

PERIODICAL: Stanki i Instrument, Mashgiz, no. 2, 1961, 14 - 16

TEXT: Previous investigations of the authors (Ref. 1) have shown that excitation of low-amplitude high-frequency vibrations in flat grinding of heat-resistant alloys and tool steels improves considerably the quality of the surface. Further experiments were conducted to investigate the effect of forced ultrasonic vibrations in grinding on the wear-resistance of the cutting tools. High-speed P 18 (R-18) steel and BK 8 (VK8) sintered carbide plates were studied. The vibration parameters were: frequency, 22 kc, and double amplitude, 0.01 - 0.015 mm. The wear resistance was evaluated on a continuously turning heat-resistant alloy. The experiments showed that, in all cases, grinding with ultrasonic vibrations considerably improved the wear-resistance of the cutting tools. For the R18 steel cutters the greatest improvement was observed in the range of higher cutting speeds. Test data showed that the wear-resistance of the VK8 cutters (92% tungsten carbide, 8% cobalt) ground with ultrasonic vibrations was more than twice that of conventionally

Card 1/4

25903  
S/121/61/000/002/001/005  
A207/A101

Ultrasonic vibrations in grinding cutting tools

ground cutters. The НЭЛ -IV (NEL-IV) type magnetostrictional vibrator-nickel block was used as the source of mechanical vibrations. The vibrational head was power supplied from a ГУЗ -5П (GUZ-5P) ultrasonic generator, with a maximum output power of about 3.5 kw. The ЭБ 60СМИК (EB60SMIK) sphere was used for the grinding of the fast-cutting plates, and the КЧ 60СМИК - (KCh60SMIK) sphere-for the sintered carbide plate. The cutting tool resistance in both cases was determined by taking the usual blunting criterion - the magnitude of wear along the back edge equal to  $h = 0.6$  mm. Figure 5 shows the relationship between the cutting speed and the resistance for the R18 tools ground with and without vibrations. The following v-T relationships could be derived from these graphs: 1) when working with tools ground with ultrasonic vibrations:  $v = \frac{15.3}{T^{0.16}}$  m/min; 2) when grinding with tools which are ground without vibrations:

$v = \frac{9.7}{T^{0.06}}$  m/min ( $T$  - service time). The results of comparative experiments of the tool  $T$  resistance with VK8 plates ground with and without vibrations is given by the table: the data show that the resistance of the cutters ground at ultrasonic vibrations exceeds those ground without vibrations by a factor of two. It is pointed out that an even greater effect can be expected when grinding the tools with cooling. The authors derive the following conclusions from experimental data: 1)

Card 2/4

25903

S/121/61/000/002/001/005

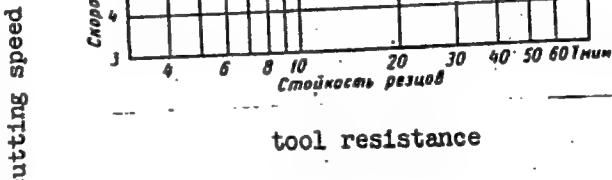
A207/A101

## Ultrasonic vibrations in grinding cutting tools

It is expedient to grind the cutting tools made of various materials under conditions of relative vibrations (the tool-material system), of high or ultrasonic frequency and low amplitude ( $2A \leq 0.01 \pm 0.015$  mm). The experiments showed that the tool resistance increases considerably in the latter case. 2) The experiments indicated further that at the present time, it is worth to develop experimental constructions of the simplest vibrating systems for grinding the cutting tools using relative vibrations of the grinding circle-blank system. There are 6 figures 1 table, 1 Soviet-bloc reference.

Figure 5:

1 - grinding using ultrasonic vibrations, 2 - grinding without vibrations



Card 3/4

SHERBAKOV, Mikhail Grigor'yevich; FISENKO, Vitaliy Isidorovich;  
NOVIKOV, Yevgeniy Ivanovich; YURCHENKO, I.F., inzh., red.;  
MANIN, I.I., retsenzenter; KOLTUNOVA, M.P., red.; VOROTNIKOVA,  
L.F., tekhn. red.

[Wages of track maintenance workers; manual] Oplata truda v pu-  
tevom khoziaistve; spravochnik. Pod obshchey red. I.F.  
IUR'chenko. Moskva, Transzheldorizdat, 1962. 185 p.  
(MIRA 16:2)

(Wages--Railroads)

SHERBAKOV, M.I., kandidat sel'skokhozyaystvennykh nauk.

Studying drills and planting machines; treating seeds before sowing.  
Est. v shkole no.2:36-41 Mr-Ap '56. (MIRA 9:7)

1.Institut metodov obucheniya Akademii pedagogicheskikh nauk RSFSR.  
(Agriculture--Study and teaching)

KUREK, N.M., red.; SHERBAKOV, S.N., red.; ARSEN'YEV, L.B., red.;  
BOBORYKIN, Ye.P., red.; VISHNEVSKIY, A.V., red.; GORCHAKOV, A.V.,  
red. GUSHCHIN, V.M., red.; DRUZHININ, B.N., red.; LEPILIN, G.M.,  
red.; PEREL'SHTEYN, N.L., red.; TESLYA-TESLENKO, V.P., red.;  
AGRANATOV, Yu.O., tekhn.red.

[Precast reinforced concrete members; planning and using] Sbornye  
zhelezobetonnye konstruktsii; opyt proektirovaniia i primeneniia.  
Moskva, TSentr. biuro tekhn.inform., 1958. 422 p. (MORA 11:5)

1. Russia (1917- R.S.F.S.R.) Ministerstvo stroitel'stva.  
Tekhnicheskoye upravleniye.  
(Precast concrete construction)

KOPEYKOVSKIY, V.M.; SHERBAKOV, V.G.; GARBUZOVA, G.I.; IGOL'CHENKO, M.I.;  
RYAZANTSEVA, N.I.; TROYANOVA, N.L.

Problem of the forced ventilation of sunflower seeds. Izv.vys.  
ucheb.zav.; pishch.tekh. no.1:20-23 '59. (MIRA 12:6)

1. Krasnodarskiy institut pishchevoy promyshlennosti, kafedra  
tekhnologii zhirodyvaniya.  
(Sunflower seed--Storage)

LOMOV, Boris Fedorovich; SHERBAKOVA, G.A., red.; ZHUKOVA, Ye.G.,  
tekhn. red.

[Man and technology; essays on engineering psychology] Chelovek  
i tekhnika; ocherki inzhenernoi psikhologii. Leningrad, Izd-vo  
Leningr. univ., 1963. 264 p. (MIRA 16:5)  
(Human engineering)

USSR/Organic Chemistry - Synthetic Organic Chemistry, E-2

Abst Journal: Referat Zhur - Khimiya, No 1, 1957, 866

Author: Krasovitskiy, B. M., Pereyaslova, D. G., Kovalenko, O. D., and  
Sherbakova, L. I.

Institution: None

Title: Effect of Steric Factors on the Properties of Dyes Containing the Bi-  
phenyl Nucleus. III. Investigation of Disazo Dyes -- Derivatives of  
Biphenol, Phenanthrene, Phenazone, and Phenanthridone

Original  
Periodical: Ukr. khim. zh., 1955, Vol 21, No 5, 614-618

Abstract: A comparative study has been made of the properties of disazo dyes  
(DAD) obtained from 2,7-diaminophenanthrene (I), 2,7-diaminophenazone  
(II), and 2,7-diaminophenanthridone (III) as the disazo constituent.  
The products obtained were compared with previously investigated DAD  
produced from benzidine (IV), 2,7-diaminofluorene (V), 2,7-diamino-  
phenanthraquinone (VI), 2,7-diaminodiphenyl ketone, and other 2,7-  
diamines (see Communication II, Referat Zhur - Khimiya, 1956, 61502).

Card 1/3

USSR/Organic Chemistry - Synthetic Organic Chemistry, E-2

Abst Journal: Referat Zhur - Khimiya, No 1, 1957, 866

Abstract: 54; II → VIII,  $\lambda_{\max}$  525 m $\mu$ ; X → VII, 525, 45,000, 31; X → VIII,  $\lambda_{\max}$  490 m $\mu$ . A comparison of DAD from III with the corresponding DAD from 3,3'-(XI) and 4,4'-diaminobenzanilides (XII) and from IV shows that the introduction of the CONH-group has no marked effect on the directness, whereas the appearance of the biphenyl bond sharply increases the directness (the composition of the dye,  $\lambda_{\max}$  in m $\mu$ , and directness in percent are indicated in that order): IV → IX, 575, 59; XI → VII, 520, 13; XI → X, 520, 9; XI → VIII,  $\lambda_{\max}$  490 m $\mu$ ; XII → VII, 550, 63; XII → IX, 550, 56; II → VII, 570, 61; III → IX, 575, 54; III → VIII,  $\lambda_{\max}$  540 m $\mu$ . Trisazo dyes derived from 2,4,4'-triaminobiphenyl (VIII) [sic] occupy an intermediate position in color and directness between the DAD from IV and from biphenyl (as above): XIII → VII, 560, 39; XIII → VIII, 520, --.

Card 3/3

OVES, Il'ya Semenovich, kand. tekhn. nauk; SAPOZHNIKOV, Il'ya Zinov'yevich; MARTSINSKIY, A.F., inzh., retsenzent; KONDRASHOV, A.V., inzh., retsenzent; SHERBAKOV, S.N., nauchn. red.; MORSKOY, L.K., red. izd-va; RODIONOVA, V.M., tekhn. red.

[Organization of the supply and replenishment of materials and equipment for construction] Organizatsiia material'no-tehnicheskogo snabzheniya i komplektatsii stroitel'stva; opyt raboty Glavmosstroia. Moskva, Gosstroiizdat, 1963. (MIRA 16:12) 213 p.

(Construction industry--Management)

SHERBAKOVA, M.Ya.

Resolving power calculation and cycle selection for a three-stage radio-frequency mass-spectrometer. Zhur.tekh.fiz. 27 no.3:599-605  
(MLRA 10:5)  
Mr '57.

1.Gorno-geologicheskiy institut, Novosibirsk.  
(Mass spectrometry)

PEDOTOVA, T.I.; SHERBAKOVA, N.M.

Use of the serological method in the work of eliminating  
diseases in seed potatoes. Trudy VIZR no.21:51-56 pt.2 '64.  
(MIRA 18:12)

RUMANIA/Organic Chemistry - Synthetic Organic Chemistry.

G.

Abs Jour : Ref Zhur - Khimiya, No 16, 1958, 53947

Author : Almashi, Sherban, Koloshi, Iliesh

Inst : Academy RPR

Title : Elemento-Organic Compounds. I. o,o-diethyl Esters of  
Arylsulfamidothiophosphoric Acids.

Orig Pub : Studii si cercetari chim. Acad. RPR Fil. Cluj. 1957,  
8, No 1-2, 159-168.

Abstract : The reaction of (S)  $P(OC_2H_5)_2Cl$  with  $p-RC_6H_4SO_2NHNa$  in  
polar solvents (pyridine, acetone, dioxane) yielded  
 $(S)P(OC_2H_5)_2NHSO_2C_6H_4R$  (I); (given: R, m. p. in °C.)  
Cl, 95; f, 72; Br, 112; I, 135; CN, 117; H, 56; OCH<sub>3</sub>,  
113; CH<sub>3</sub>, 84.

Card 1/2

12

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549220014-3  
G.  
RUMANIA/Organic Chemistry - Synthetic Organic Chemistry.

Abs Jour : Ref Zhur - Khimiya, No 16, 1958, 53947

The insecticidal activity of I is less than that of  
Ekatox. However, I is more active when R is F, CN,  
or I.

Card 2/2

L 52790-65 EWT(l)/EWT(m)/EWG(m)/T/EWP(t)/EWP(b)/EWA(h) Pz-6/Peb  
IJP(c) RDW/JD/AT

UR/0181/65/007/004/1244/1245

ACCESSION NR: AP5010747

AUTHOR: Kot, M. V.; Panasyuk, L. M.; Sinashkevich, A. V.; Tsurkan, A. Ye.; Sherban, D. A.

TITLE: On the intrinsic recombination radiation of ZnSe--ZnTe heterojunctions

SOURCE: Fizika tverdogo tela, v. 7, no. 4, 1965, 1244-1245

TOPIC TAGS: heterojunction, pn junction, recombination radiation, intrinsic radiation, voltage current characteristic, spectral distribution

ABSTRACT: The authors report the first successful attempt to produce n-p heterojunctions ZnSe--ZnTe in crystal-layer form, to obtain effective injection of minority carriers, and to observe intrinsic recombination radiation. The voltage-current characteristic of such junctions has the usual diode character. The forward current was several milliamperes at 2 V, and the inverse current up to 20  $\mu$ A at 5 V. The dependence of the short-circuit current on the illumination, the lux-ampere characteristics, and the spectral distribution of the photo emf were investigated. In all the samples the short-circuit current depends linearly on the illumination. The no-load voltage was 0.6-0.7 V. The samples were sensitive to

Card 1/2

L 52790-65

ACCESSION NR: AP5010747

2

light in the wavelength interval  $0.4\text{--}0.65 \mu$ . Recombination radiation was observed when current flowed in the transmission direction of such a junction. The radiation became visible at current densities on the order of  $0.2 \text{ A/cm}^2$ . The recombination radiation occupies the wavelength band in the interval  $0.44\text{--}0.75 \mu$ , and the intensity of the radiation increased with increasing current density. The corresponding quantum energy is 2.6 and 1.82 eV, which agrees with the respective widths of the forbidden bands of ZnSe and ZnTe at room temperature (2.6 and 2.1 eV). The integral radiation intensity is practically linear with the current, and at room temperature the glow brightness was approximately 50 nit, increasing to 150 nit at liquid-hydrogen temperature for a  $1 \text{ mm}^2$  junction area. "The authors are deeply grateful to Professor D. N. Nasledov for continuous interest in the work and valuable advice." Orig. art. has: 2 figures.

ASSOCIATION: Kishinevskiy gesudarstvenny universitet (Kishinev State University)

SUBMITTED: 24 Apr 64

ENCL: 00

SUB CODE: SS, OP

MR REF Sov: 000

OTHER: 000

BAG  
Card 2/2

SHERBAN, Mikhay  
SHERBAN, Mikhay [Seftban Mihai]; FIMAN, Iosif; KOMAN, Dan [Coman, Dan]

[Caves of Rumania] Peshchery Rumyndii. Bucharest, Izd-vo  
"Meridiany," 1961. xxxvi p. illus. (MIRA 15:1)  
(Rumani--Caves)

SHERBAN, M.; FIMAN, I.

Similarity between underground and surficial river streams.  
Nov.kar.i spel. no.3:80-81 '63. (MIRA 16:10)

SHERBAN', O. N. Cand Med Sci -- "Study of ~~the~~ mineral and protein metabolism  
in bone regeneration in affections of tubular bones." Kiev, 1961 (Kiev Order  
of Labor Red Banner Med Inst im Academician A. A. Bogomolets). (KL, 4-61, 212)

-393-

SHERBAN, Ye.

New and little-known species of black flies of the group  
*Eusimulium aureum* Fries (Diptera, Simuliidae) from Rumania. Ent.  
oboz. 40 no.3:677-685 '61. (MIRA 15:3)

1. Institut speleologii, Bucharest.  
(Rumania--Black flies)

SHERBANOV, V. A. (Kherson)

Calculating heat cycles in the hard facing of cylindrically-shaped  
machine parts along the generatrix. Avtom. svar. 14 no.12:40-44  
D '61. (MIRA 14:11)

(Hard facing)  
(Heat--Transmission)

SHERBAUM, L.

Standard planning and introduction of new technology. Stroi.  
mat., izd.i konstr. 2 no.9:4-7 S '56. (MLRA 9:11)

1. Zamestitel' predsedatelya Tekhnicheskogo soveta Ministerstva  
promyshlennosti stroitel'nykh materialov SSSR.  
(Cement industries)

PHASE I ECOOK EXPLOITATION

SOV/5573

Akademiya nauk SSSR. Astronomicheskiy sovet

Byulleten' stantsiy opticheskogo nablyudeniya iskusstvennykh sputnikov Zenli.  
no. 5 (15) (Academy of Sciences of the USSR. Astronomic Council. Bulletin  
of the Stations for Optical Observation of Artificial Earth Satellites.  
No. 5 (15)) Moscow, 1960. 17 p. 500 copies printed.

Sponsoring Agency: Astronomicheskiy sovet Akademii nauk SSSR.

Resp. Ed.: Ye. Z. Gindin; Ed.: D. Ye. Shchegolev; Secretary: O. A. Severnaya.

PURPOSE: This bulletin is intended for scientists and engineers concerned with  
optical tracking of artificial satellites.

COVERAGE: The bulletin contains six articles, two of which deal with the con-  
struction and operating principles of two new semiautomatic telescopes for  
tracking satellites. Two other articles are concerned with the reduction  
of data from photographs and the determination of satellite orbital parameters.

Card 1/4